Estero Island Beach Nourishment Project Update

FEBRUARY 6, 2023

FORT MYERS BEACH
FMB
ESTERO ISLAND

COASTAL ENGINEERING CONSULTANTS INC.

Outline

- Beach Project Update
- Funding
- Easements
- Construction
- Emergency Berm

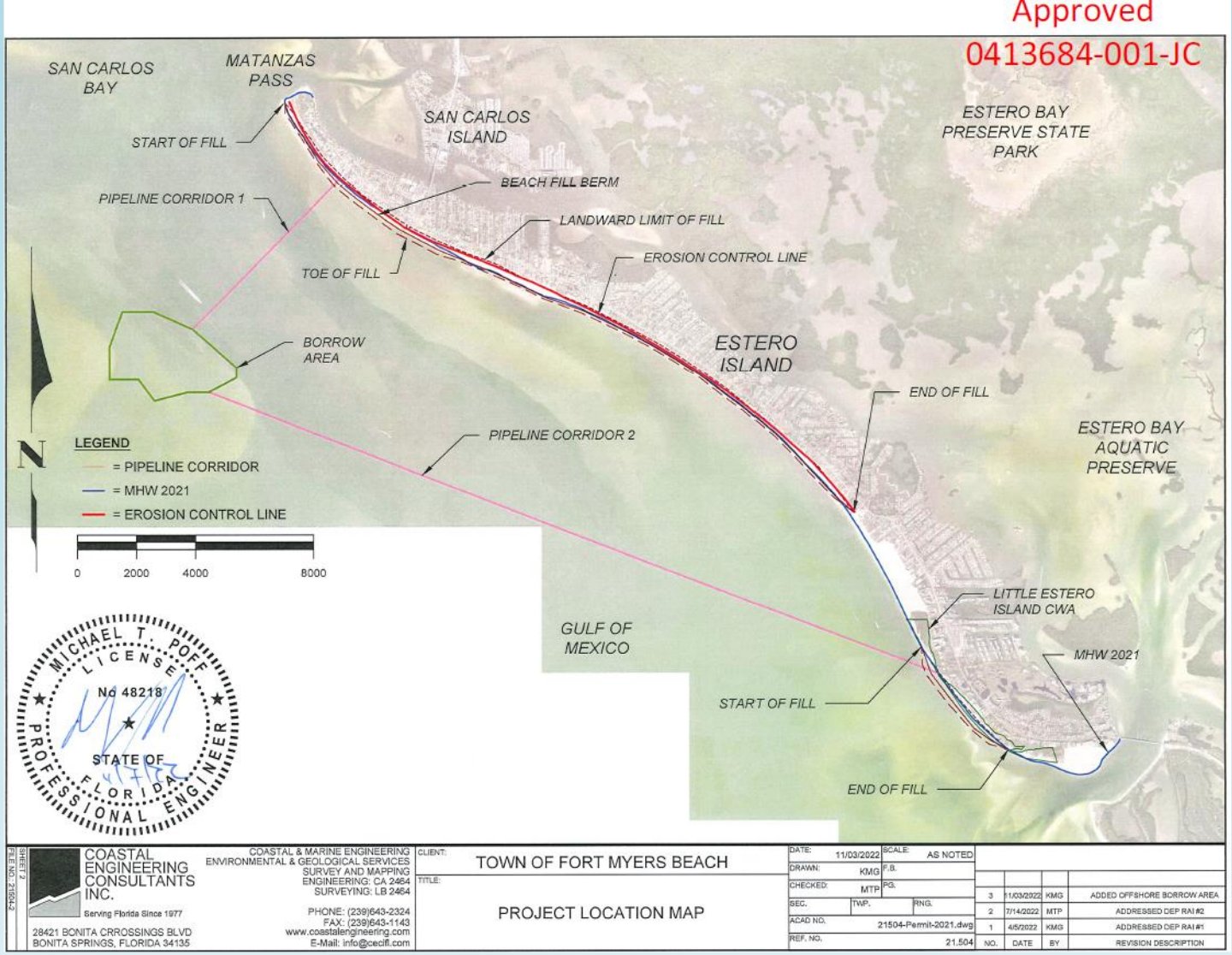
2022 Post Ian Aerial

Beach Project Update

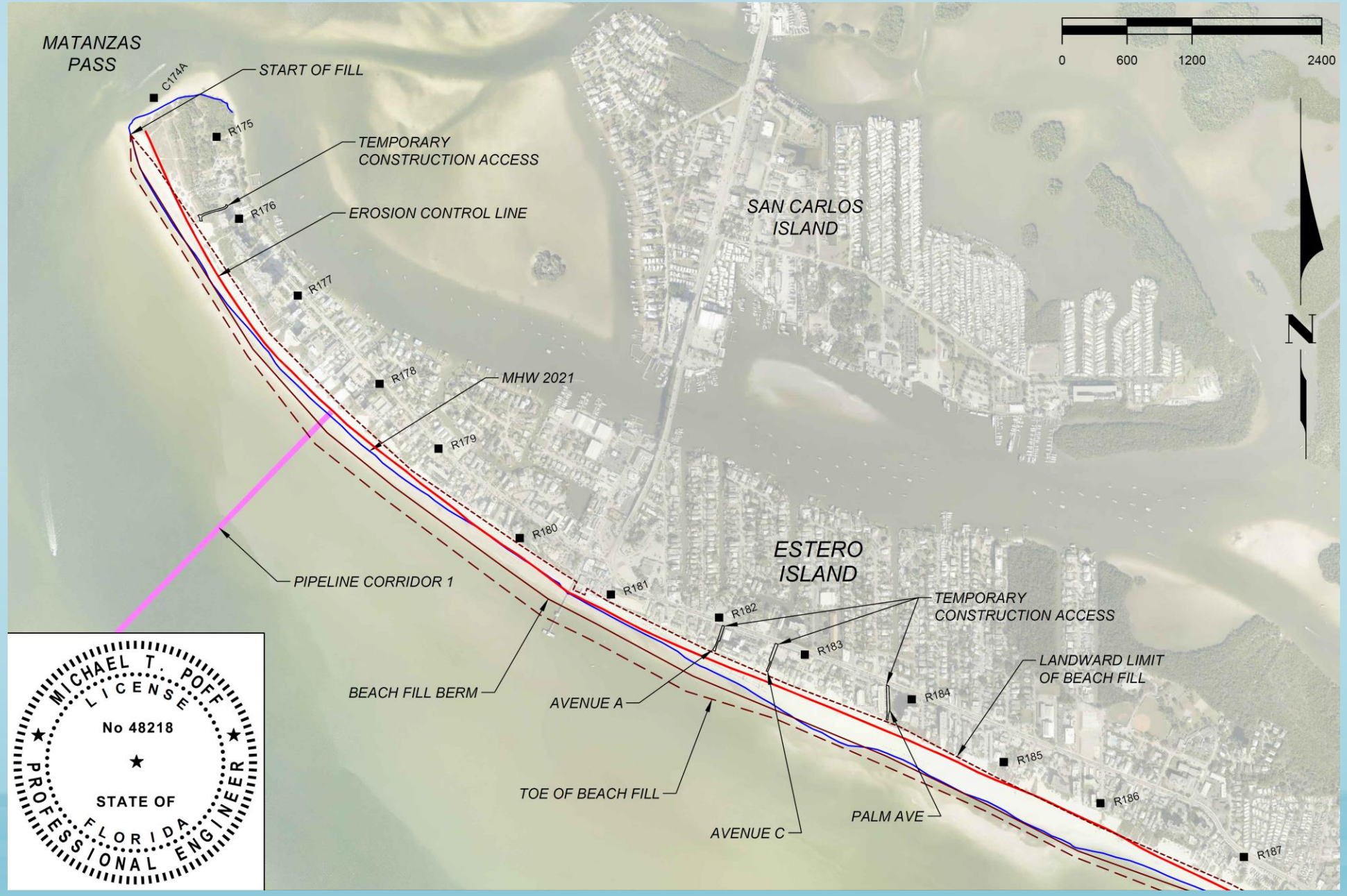
- Beach Fill Segments
- Hurricane Impacts
- Borrow Areas
- Permit Status
- Opinion of Probable Costs

Beach Fill Segments

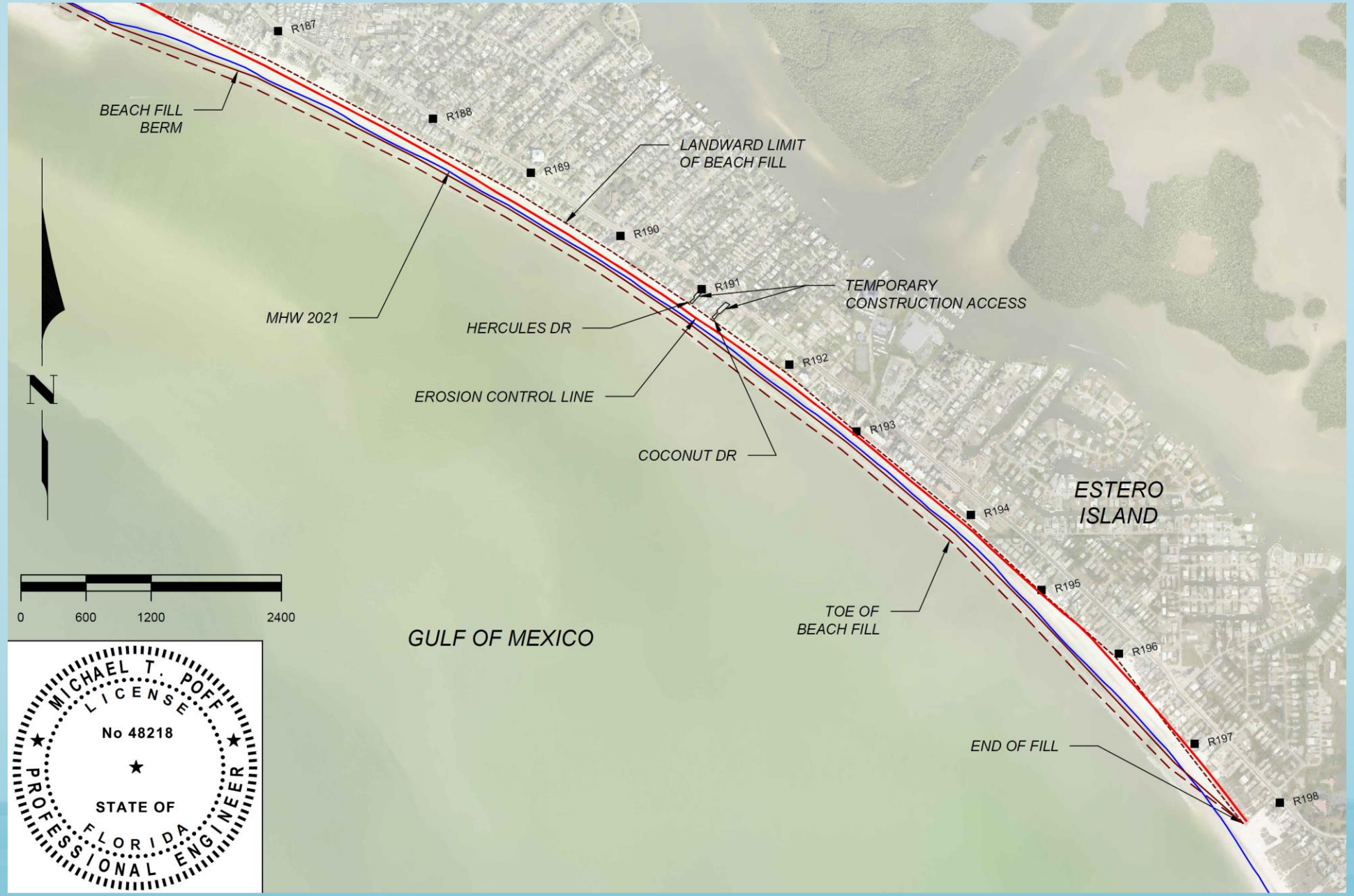
- North: R-175 to R-182
  - Bowditch Point-Canal St
- Central: R-182 to R-198
  - Canal St-Lanark Avenue
- *Removed R-198 to R-203*
- South: R-203 to R-207
  - ~Creciente Condo-Sun Caper



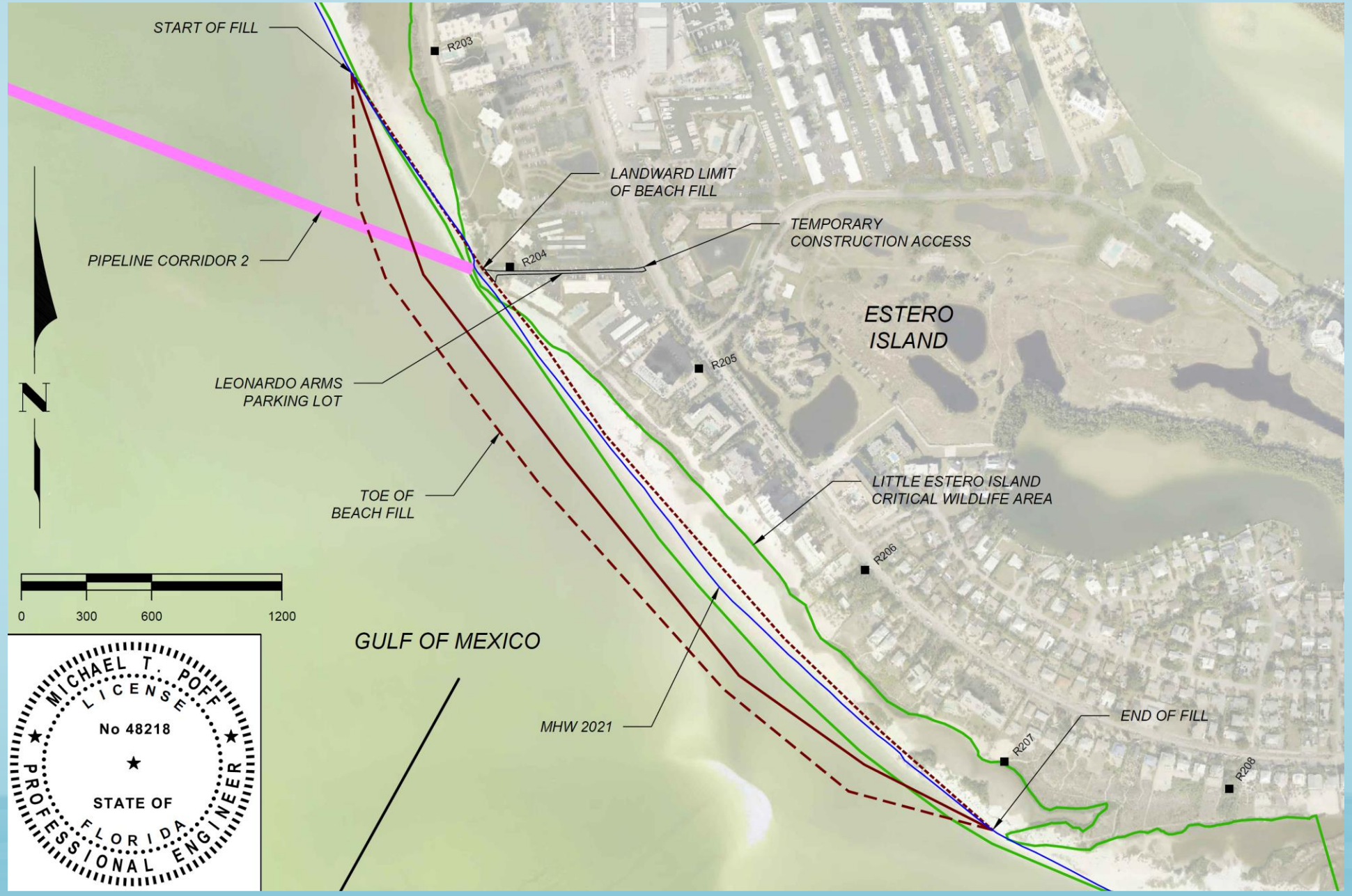
North: Bowditch Point-Canal St; Central: Canal St-Lanark Avenue



Central: Canal St-Lanark Avenue



South: Creciente Condo-Sun Caper

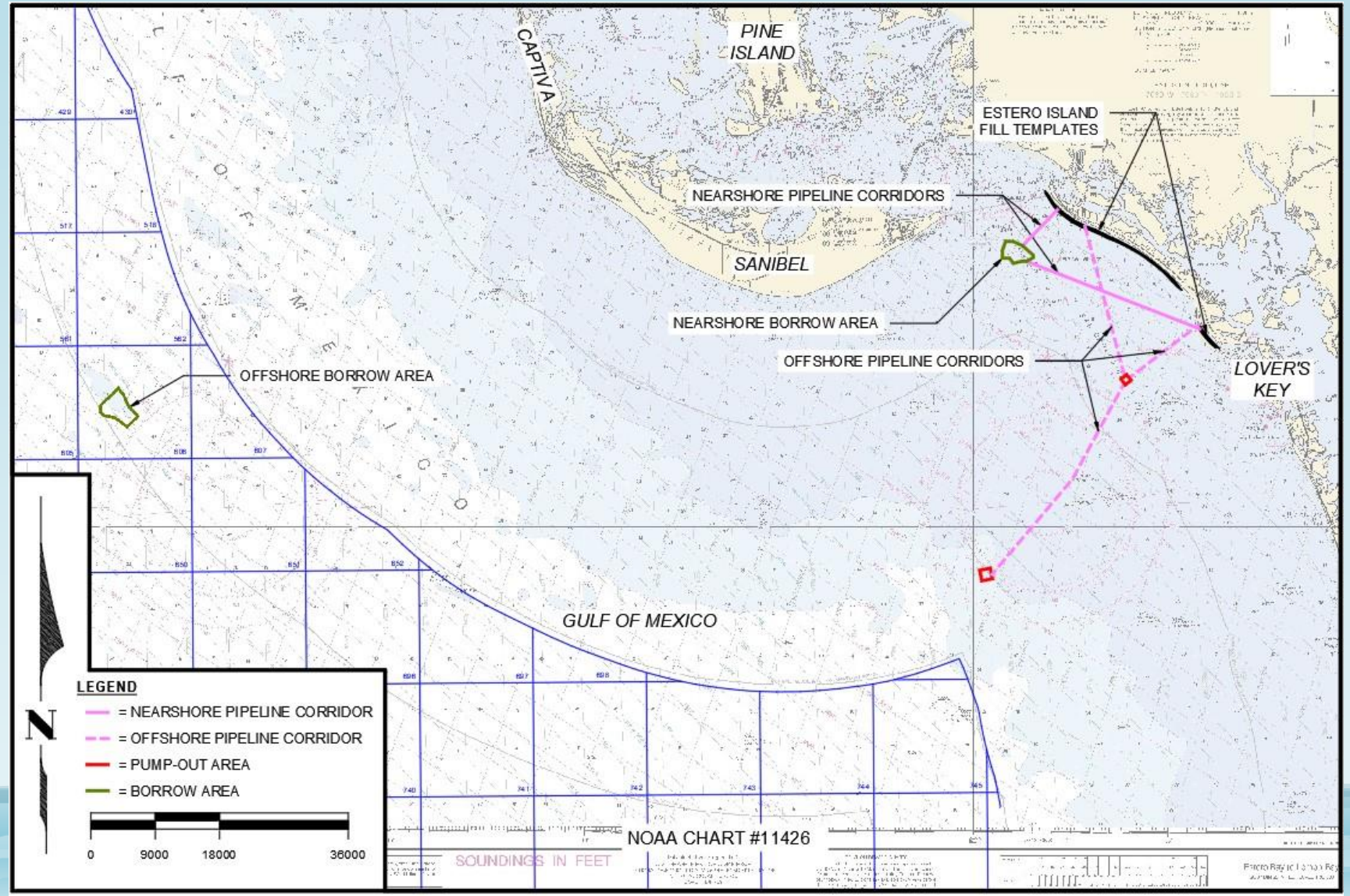


Hurricane Ian Impacts

- North (2011) = 56,845 CY (FEMA Eligible)
- Natural Beach (Canal St South) = 163,576 CY
- Natural Beach = 89,406 CY (FEMA Emergency Berm)

BORROW AREAS

- Added Offshore Borrow Area, Pump-out Areas & Corridors



Permit Status

- FDEP – Issued Permit Jan 2023

- USACE
  - Published Public Notice
  - Initiating Consultation with USFWS
  - Working on Informal Expedited Stacked Consultation Request to NMFS

- Bureau of Ocean Energy Management Lease
  - Outer Continental Shelf Sand Resource

Updated Preliminary Opinion of Probable Project Cost

- March 2022
  - Volume ~ 905,000 CY
  - Cost ~ $23,053,000
- January 2023
  - Volume ~ 1,036,015 CY
  - Cost ~ $25,155,000
- Volume % Diff ~ 14.5%
- Cost % Diff ~ 9.1%

ESTERO ISLAND BEACH RENOURISHMENT
PRELIMINARY OPINION OF PROBABLE PROJECT COSTS
ANTICIPATED YEAR OF CONSTRUCTION: 2023

Item	Description	Unit	Quantity	Unit Price	Extended Price [1]	Subtotals
DP-1	Design and Permitting	LS	1	$481,010	$481,000	
DP-2	Permit Fee	LS	1	$21,000	$21,000	$502,000
C-1	Mobilization/Demobilization	LS	1	$7,065,000	$7,065,000	
C-2	Beach Fill	CY				
C-2A	North-Central		645,845	$13.70	$8,848,000	
C-2B	South		390,170	$14.10	$5,501,000	
C-3	Environmental Protection	Days	150	$350	$53,000	
C-4	Turbidity Monitoring	Days	150	$600	$90,000	
C-5	Shorebird Abatement	Days	106	$450	$48,000	
C-6	Dune Vegetation	SY	8,300	$13	$107,900	$21,712,900
CM-1	Construction Monitoring	LS	1	$64,000	$64,000	$64,000
CP-1	Construction Phase Services	LS	1	$473,000	$473,000	$473,000
M-1	Biological Monitoring	Years	1	$50,000	$50,000	
M-2	Physical Monitoring	Years	1	$62,000	$62,000	
M-3	Beach Tilling	Years	1	$50,000	$50,000	$162,000
					Subtotal	**$22,913,900**
					10% Contingency *	$2,241,000
					Grand Total	**$25,154,900**

[1] Values rounded to the nearest $1,000

COASTAL ENGINEERING CONSULTANTS INC.

CEC File No. 21.504

*** D&P Excluded from Contingency**

BEACH PROJECT FUNDING

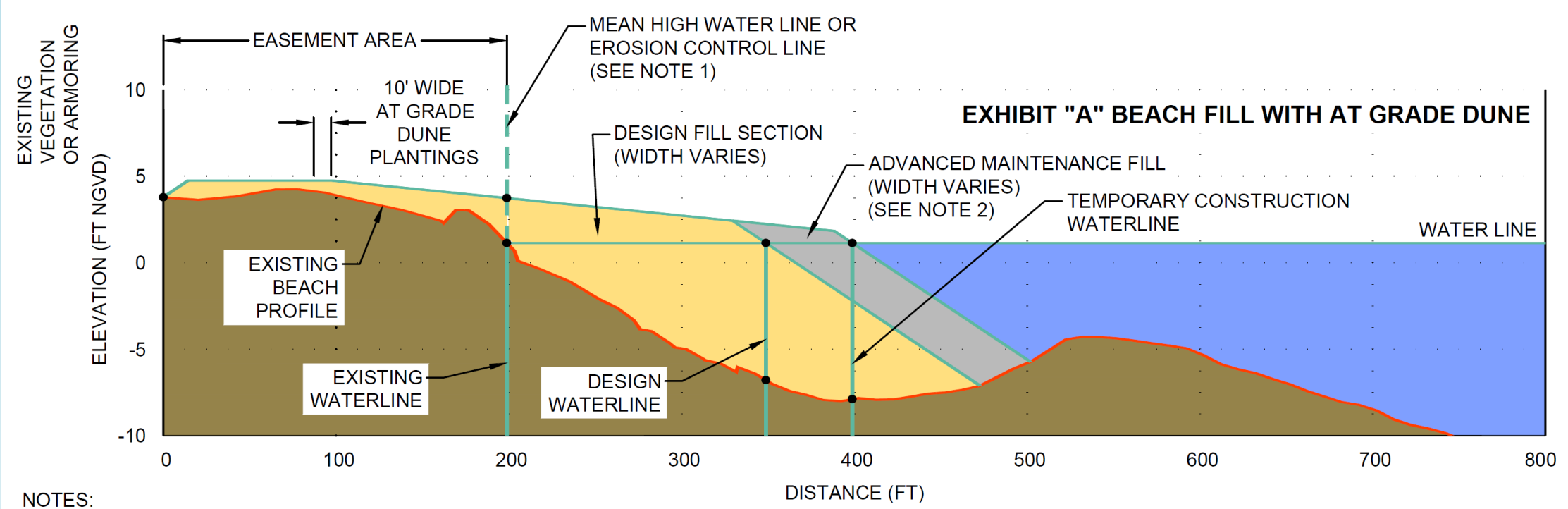
DESCRIPTION	VOLUME	COST	TOWN	COUNTY/TDC	FDEP	FL DEM	FEMA
DESIGN & PERMITTING		$502,000	$0	$341,000	$191,000	$0	$0
PRE-IAN DESIGN	905,000	$22,303,000	$931,648	$7,555,083	$13,816,269	$0	$0
CAT G IAN LOSS	56,845	$1,380,222	$0	$0	$172,528	$172,528	$1,035,166
ADDITIONAL LOSS	74,170	$1,800,880	$0	$0	$1,800,880	$0	$0
TOTALS	1,036,015	$25,484,102	$931,648	$7,555,083	$15,789,677	$172,528	$1,035,166

* Assumes Critical Wildlife Area Remains, FEMA Fast Tracks Approval Process to Enable Concurrent Construction of *Category G* Repair Project, and FDEP Pays Town Share of *Category G* Repair Project

Construction Easements

- Construction Easement (CE) Purpose
  - To allow for the Town, Contractor, Engineer, and Monitors to conduct work on private property
- Do I need to sign my Construction Easement (CE)?
  - Only if you want sand
- What "area" does the CE cover?
  - Definition Sketch

EASEMENT DEFINITION SKETCH



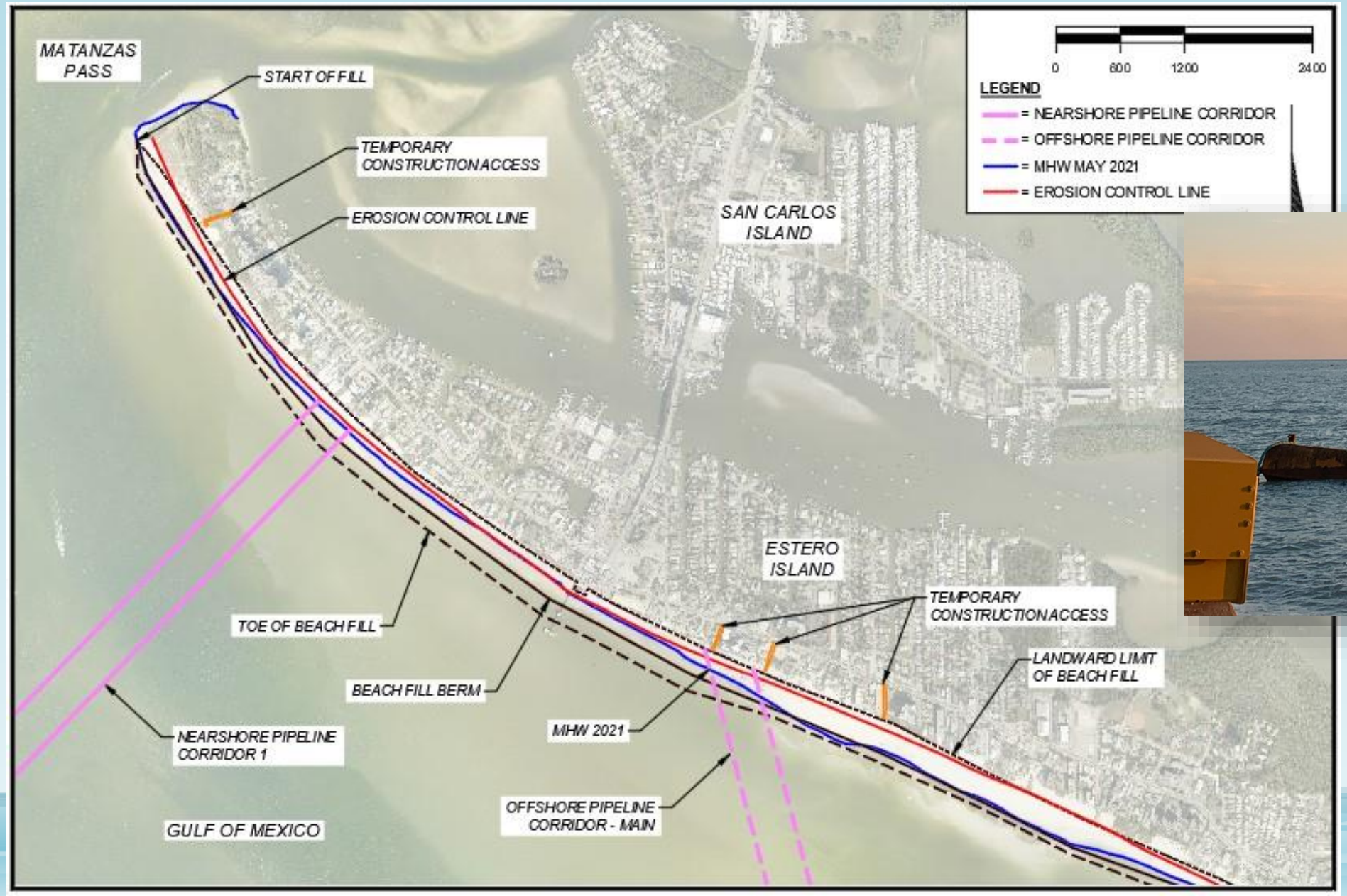
NOTES:

1. THE SEAWARD LIMIT OF THE EASEMENT AREA IS THE MEAN HIGH WATER LINE OR THE EROSION CONTROL LINE IF ONE IS ESTABLISHED.
2. ADVANCED MAINTENANCE MAY BE PROPOSED SUBJECT TO FISCAL CONSTRAINTS.
3. LOCATIONS OF THE AT GRADE DUNE PLANTINGS ON PRIVATE PROPERTY MAY BE ADJUSTED SUBJECT TO PERMIT CONDITIONS.

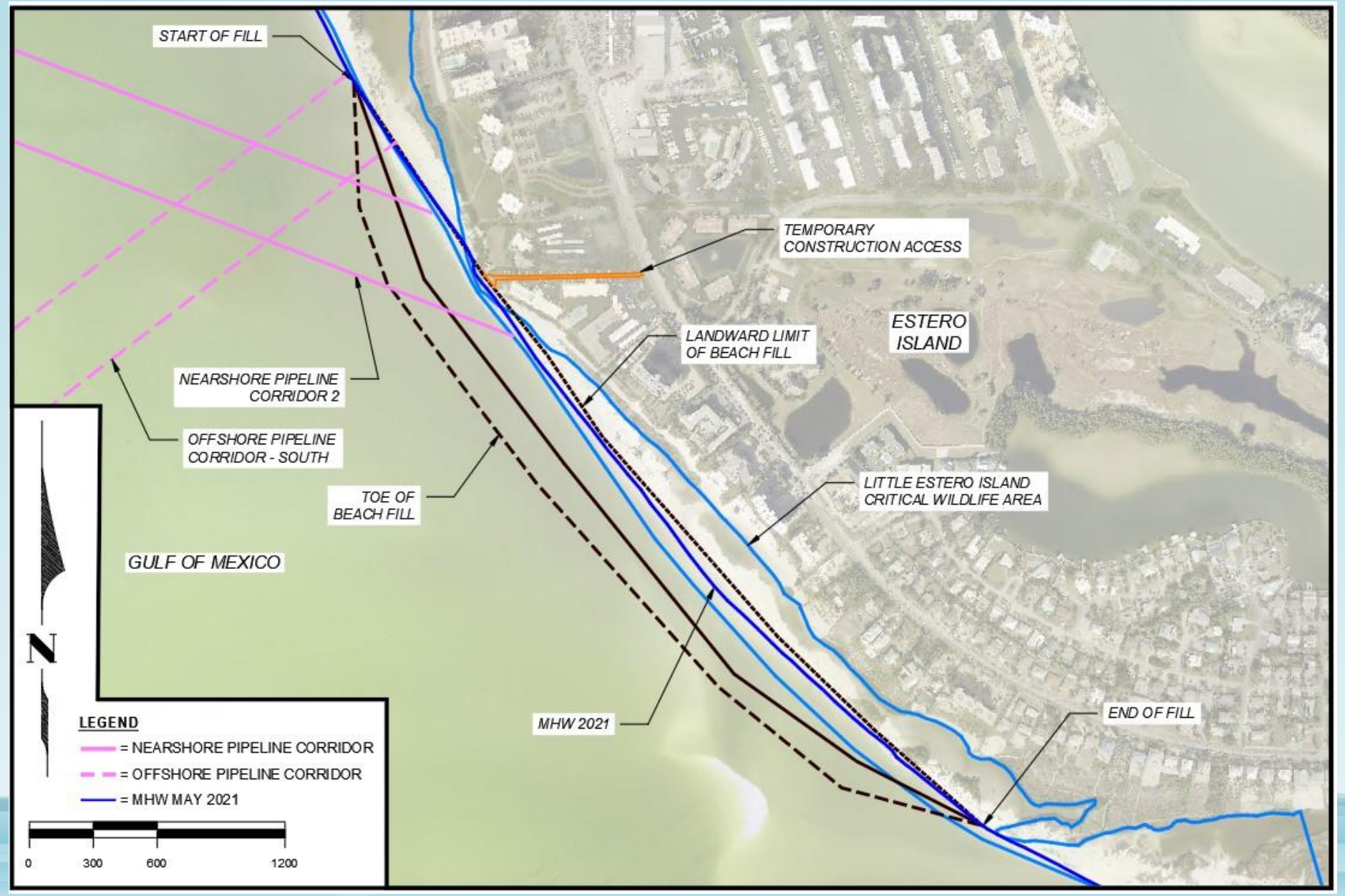
Construction Details

- Beach Project Schedule
  - Goal is early fall 2023 start. 9-Month Const Window
- Construction Sequence
  - Contractor will be allowed to sequence their construction
    - Begin in area of greatest need
    - USACE scheduled to dredge Matanzas Pass [~August – November]
    - Shorebird & Sea Turtle Nesting Considerations
- Construction Access & Staging
  - Contractor will be allowed to utilize a portion of Newton Beach Park. Pipe and equipment will be brought to beach either from uplands or via ramp barge. Means and methods are up to contractor.

PIPELINE CORRIDORS & LANDINGS (NORTH)



PIPELINE CORRIDORS & LANDINGS (SOUTH)



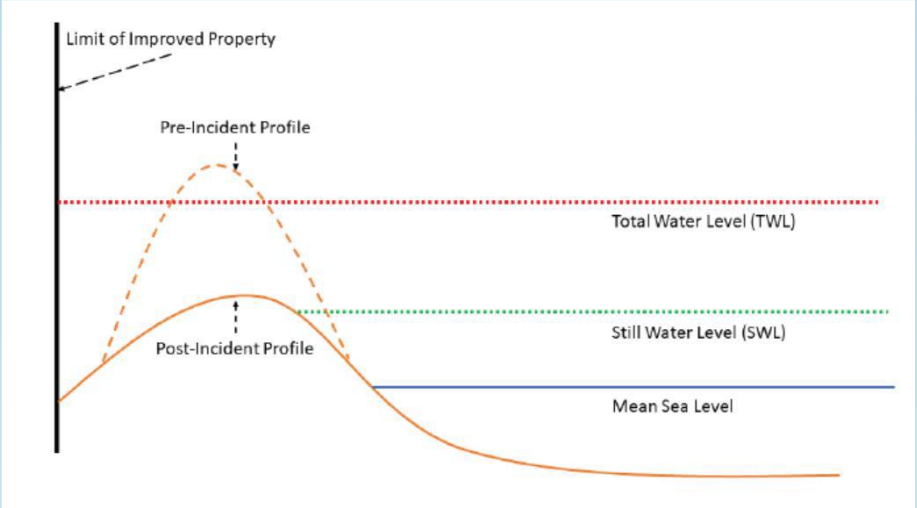
What to Expect...

- When the pipeline first makes landing at the beach, the Contractor will pump sand to build a pad of sand. Once the pad is created the contractor will add pipe sections and progress along the beach using the grading equipment to shape the beach. The bulldozers, grading equipment and movable office will move with the beach fill advance. The active construction typically takes a few days to complete sand placement for 200 feet of beach. However, the pipeline remains in place through the end of pumping. Then the contractor has to final grade and till the beach.

Post-Construction Requirements

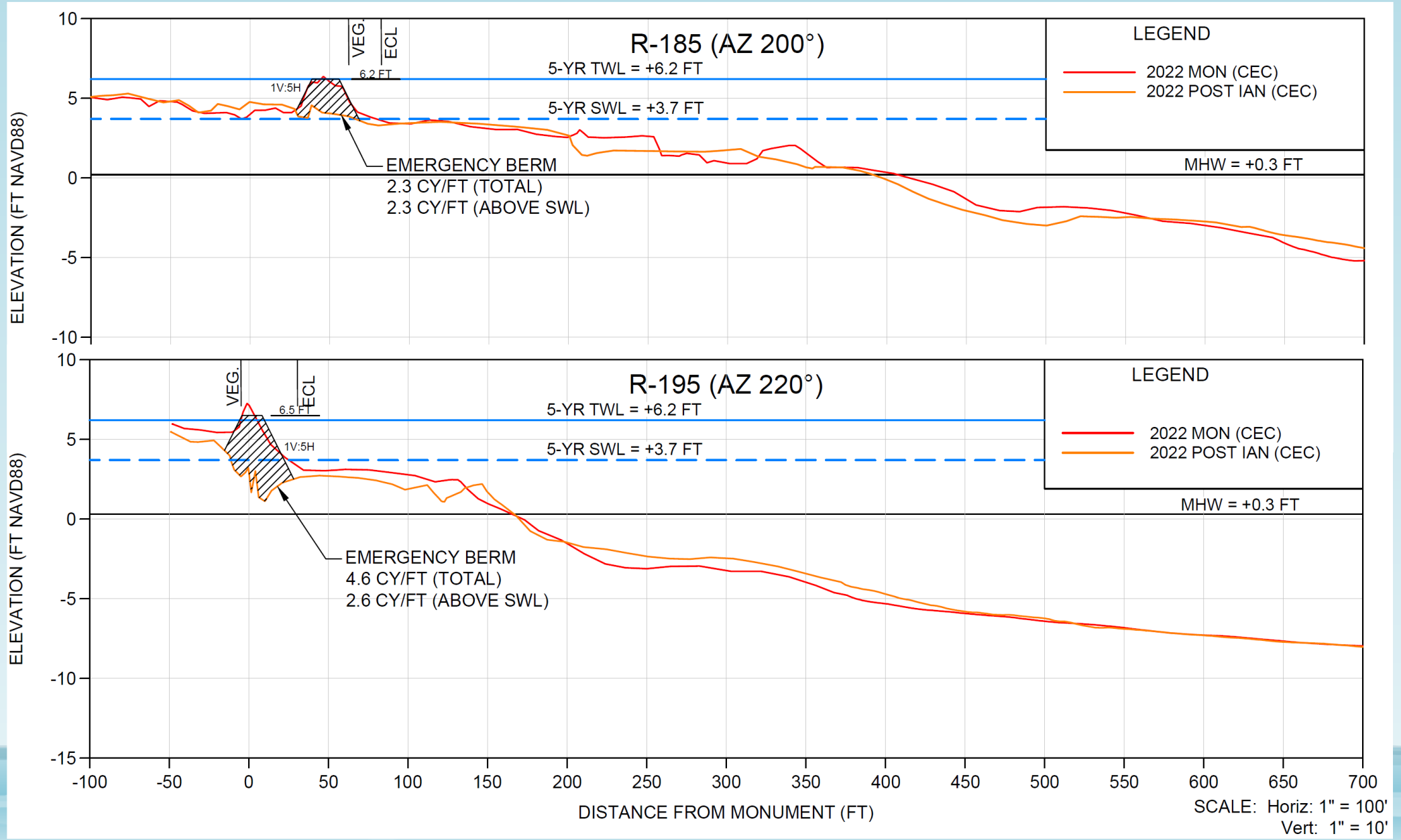
- Beach Tilling
  - Till beach for three consecutive seasons to loosen sand and enhance sea turtle nesting (hydraulically placed sand is artificially compacted)
- Sea Turtle Lighting Compliance
  - Conduct lighting surveys/reporting
- Annual Monitoring
  - Conduct beach profiles, aerial photos, and performance assessment

EMERGENCY BERM



- Natural Beach from Canal St. South
- Need Construction Easements
- Some Segments not Eligible per FEMA regulations
- According to FEMA (2020), "if a natural or engineered beach has eroded to a point where flooding from a 5-year storm could damage improved property, cost-effective emergency protective measures on the beach that protect the improved property against damage from that 5-year storm are eligible. Eligible measures typically include the construction of emergency sand berms to protect against additional damage from a 5-year storm."
- To qualify for the FEMA emergency berms, it has to be demonstrated that a 5-year storm could damage improved property, i.e., the Still Water Level plus wave runup elevation for a 5-year storm exceeds the post-incident elevation of primary dune.

TYPICAL CROSS SECTIONS



FUNDING & SCHEDULE

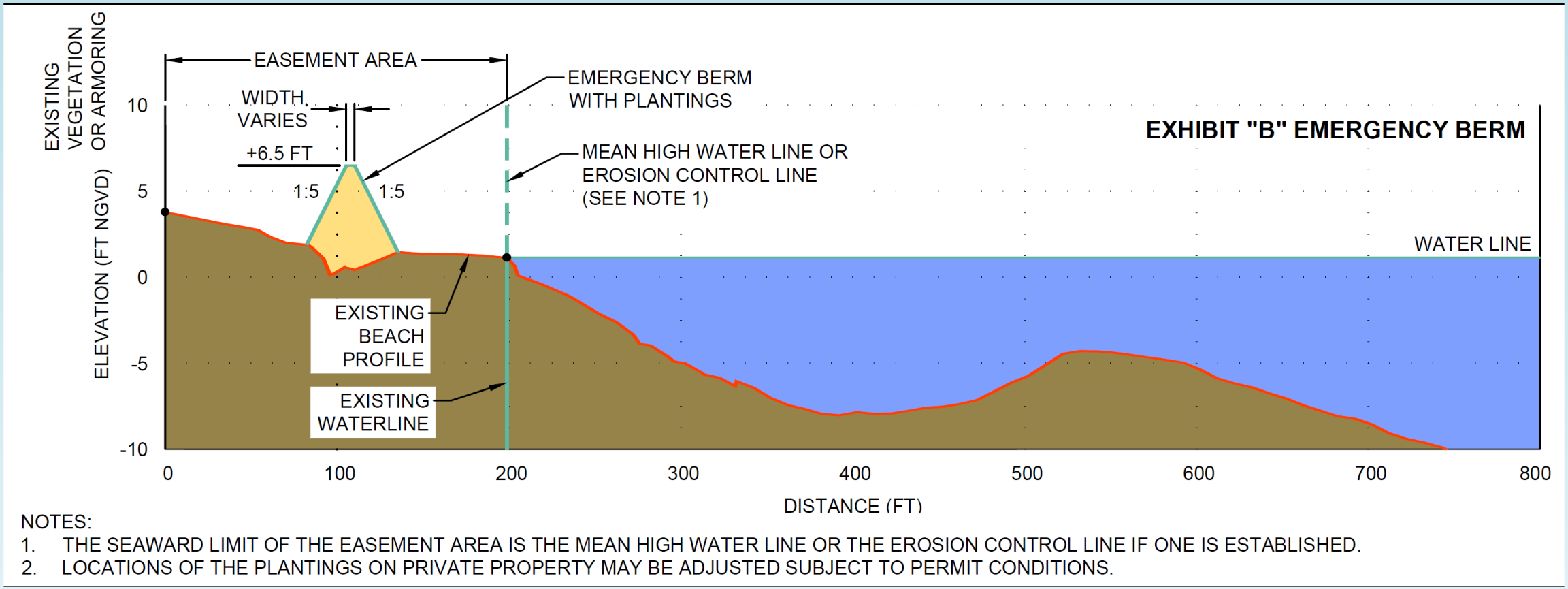
DESCRIPTION	VOLUME	COST	TOWN	COUNTY/TDC	FDEP	FL DEM	FEMA
EMERGENCY BERM	89,406	$7,259,000	$0	$0	$907,375	$907,375	$5,444,250

* Assumes FDEP Pays Town Share of *Category B* Emergency Berm Project

Schedule

- Feb: Award and Mobilize
- Mar–June: Construction
- August–September: Plant Vegetation

EASEMENT DEFINITION SKETCH



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